ABSTRACT

~~The present invention proposes a~~A coolant pump and method thereof for a coolant circuit of the internal combustion engine of a motor vehicle including at least a radiator circuit and a bypass circuit is disclosed. The coolant pump ~~comprises~~ contains a coolant pump housing (14) which is provided with an intake pipe (22), a bypass pipe (24), and a pressure pipe (34). A coolant pump electric motor (26) is arranged in the coolant pump housing (14), the motor housing (28) of which is situated in the coolant flow, drives a pump impeller (32) via a pump shaft (30). A directional control valve (40) is integrated into the coolant pump housing (14). ~~It is proposed for the first time to arrange the~~The intake pipe (22) is arranged in the area of the end of the pump motor facing away from the pump impeller (32). Furthermore the bypass pipe is ~~to be~~ arranged in an area downstream of the intake pipe (22). ~~Moreover the~~The pressure pipe (34) is ~~to be~~ arranged in an area downstream of the bypass pipe (24). ~~Finally only~~Only the coolant that can be taken in by the radiator via the intake pipe is ~~to be~~ adapted to be guided past the pump motor in a peripheral flow (50)--in particular through a flow channel (56) limited by the outer wall (52) of the pump motor housing (28) and the facing inner wall (54) of the pump housing and/or the facing inner wall (60) of the directional control valve (40). ~~The present invention also specifies a corresponding method~~